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(54) **Gaming or amusement machines**

(57) A gaming, amusement or skills machine has cashless operation. Players use a smartcard provided with a microprocessor and non-volatile memory which can be electronically credited and debited with "money" when presented to an appropriate interface and the correct PIN is used. It will be usable for other transactions than playing the machine. The machine itself has a similar smartcard and in use electronic money is exchanged between the player's card and the machine's card. Collection of machine winnings above a basic float can be by a further, collector's smartcard and keypad operation within the machine, or by the collector replacing the old machine card with a new one.

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Improvements relating to Gaming or Amusement Machines

This invention is applicable to all forms of coin operated amusement, skill or gaming machines that usually pay out coins or tokens.

5 It is current practice for this type of machine to have a coin acceptor at the top of the machine and a payout tray at waist height. Coins for payout are held stacked in tubes, face to face, for payout by a slide mechanism located just above the payout tray allowing exit under gravity. When a
10 stack has been filled any additional coins are diverted to the machine cash-box at the base of the machine. The distance between the bottom of the coin acceptor and the payout tray determines the maximum height of a stack of coins that may be utilised for payout. This imposes con-
15 straints on the machine's aesthetic design and can limit the ability of the machine to pay repetitive high value prizes even though sufficient coins are present (but unavailable) in the cash box.

 It is accepted practice for amusement machines to hold
20 £100 cash or £65 worth of tokens in the tubes whilst a gaming machine will store more than £200. The coins held in the tube are vulnerable to theft, since they can be accessed by simply smashing the machine glass. But it is inconvenient and time consuming to empty the tubes at night and then
25 refill each morning. It is possible to remove the tubes and payout assemblies, but they are bulky items and it would not be practicable in an arcade with many machines.

 Machines are normally "emptied" weekly, where the cash

is removed from the cashbox and any shortfall in tube levels made good before banking the surplus. The addition of coins to the tubes is time consuming and prone to error.

It is the aim of this invention to overcome or at least
5 alleviate the shortcomings listed above.

According to the present invention there is provided a gaming, amusement or skill machine enabled by the application thereto of a player's portable electronic memory device which can be credited and debited with money-equivalent
10 information, the machine itself having a portable electronic memory device which can be similarly debited and credited, and means for transferring such information between said devices in correspondence with the pay-ins and payouts of a coin operated machine.

15 Preferably, the player's portable electronic memory device, at least, is in the form of a card, compatible with electronic banking systems for transferring credit. At least one smartcard having a microprocessor and non-volatile memory has been developed, and such a card provides a
20 facility for the user both to transfer "cash" to his smartcard from his own bank account via a telephone link or a "hole in the wall" cash dispenser and to pay out "cash" from the card when that is inserted in a suitable terminal similar to current credit card or switch card units.

25 In the context of the gaming, amusement or skill machine, there will be an interface accessible on the outside, preferably in the form of a slot, with which the card can co-operate. Once it is inserted, it may be necess-

ary for the player to "unlock" it by keying in a personal identification number (PIN) on an adjacent keypad before he can operate a control to cause the card to be debited either step-by-step or in one lump and to build up a corresponding credit in the machine. The machine is then playable. If
5 there is a win, then the player's card will be credited with the prize.

Preferably, the machine will have a visual display to indicate the cash value of an inserted card. As the player
10 transfers "money" to the machine, that display will decrement accordingly. The input or machine credit will also be displayed separately so that the player can see both what he has got left and what is available in the machine with which to play.

15 The transfer of winnings from the machine to the player's card may be automatic, or it may require player actuation of a control. Winnings may be paid out or be available immediately, or they may be stored until the end of a playing session. This may be gauged by a zero in the
20 credit display. The new value of the card would also be displayed.

Before extraction of the card, the player could lock it again by keying in his PIN.

It is emphasised that the player's smart card is not
25 necessarily usable only with suitably adapted gaming, amusement or skill machines; it may be used for other transactions, wherever there is a compatible interface.

The portable electronic memory device in the machine is

also preferably a smartcard of the same kind as the players'. The machine game software can be organised automatically to lock the machine card or other memory device when power is removed from the machine, when a service door is open, or under "alarm" conditions. This would render the card useless to a thief without the PIN to unlock it. A unique secret code could be allocated by the machine operator to each machine, and a second code for collector identification.

Collection of "cash" from the machine would also preferably be via a smartcard similar to the player's card, with the machine retaining the basic float value and transferring the excess to a collector's card. This would be inserted in a unit within the machine cabinet to which only the collector would normally have access, but it would still require the collector to key in the correct numbers on an adjacent keypad to effect the transfer. Collector's cards could be unlocked/locked by the machine as they are inserted and removed, thus making the cards in the collector's possession worthless to a thief. Obviously, there would be facility at the collector's base or other secure establishment for locking and unlocking, thereby to release the money.

Alternatively, the collector might have power to remove the machine card and replace it with another one charged with the basic float.

CLAIMS

1. A gaming, amusement or skills machine enabled by the application thereto of a player's portable electronic memory device which can be credited and debited with money-equivalent information, the machine itself having a portable electronic memory device which can be similarly debited and credited, and means for transferring such information between said devices in correspondence with the pay-ins and pay-outs of a coin operated machine.
2. A gaming, amusement or skills machine according to Claim 1, wherein the player's memory device, when applied to the machine, is effective only when a personal identification number (PIN) is keyed in.
3. A gaming, amusement or skills machine according to Claim 1 or 2, wherein the player's memory device is in the form of a card.
4. A gaming, amusement or skills machine according to Claim 2 or 3, wherein the card is compatible with electronic banking systems for transferring credit.
5. A gaming, amusement or skills machine according to Claim 3 or 4, wherein the machine's memory device is in the form of a card of the same kind as the player's card.
6. A gaming, amusement or skills machine according to Claim 5, wherein the machine accepts a collector's card of the same kind as the player's card and has means for transfer of credit from the machine card to the collector's card.
7. A gaming, amusement or skills machine according to

Claim 6, wherein the transfer means is effective only when a PIN is keyed in.



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Claims searched: All

Examiner: Mr. G. Nicholls
Date of search: 24 January 1996

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:
UK Cl (Ed.O): G4V (VAA VAK)
Int Cl (Ed.6): G07F 7/02 7/08 7/10 17/32 17/34
Other: ONLINE : WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
A	GB 2241098 A (BARCREST)	
X	GB 1558521 (BELL-FRUIT) See especially Page 2 lines 66 to 112	1, 3

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| X | Document indicating lack of novelty or inventive step | A | Document indicating technological background and/or state of the art. |
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